

**WE CLAIM:**

1. A method for identifying agents that modulate TRAIL-induced apoptosis, the method comprising: (a) assaying a biological activity of a polypeptide modulator of TRAIL-induced apoptosis encoded by a gene shown in Tables 1 and 2, or a fragment of said polypeptide, in the presence of test agents to identify one or more modulating agents that modulate the biological activity, and (b) testing one or more of the modulating agents for ability to modulate TRAIL-induced apoptosis; thereby identifying agents that modulate TRAIL-induced apoptosis.

2. The method of claim 1, wherein the polypeptide modulator enhances TRAIL-induced apoptosis and is encoded by a gene shown in Table 1.

3. The method of claim 2, wherein the gene is selected from the group consisting of DOBI, Gsk3 $\alpha$ , and SRP72.

4. The method of claim 2, wherein the polypeptide modulator is Gsk3 $\alpha$ , and the biological activity is its kinase activity.

5. The method of claim 2, wherein the polypeptide modulator is SRP72, and the biological activity is facilitating protein translocation.

6. The method of claim 1, wherein the polypeptide modulator inhibits TRAIL-induced apoptosis and is encoded by a gene shown in Table 2.

7. The method of claim 6, wherein the gene is selected from the group consisting of MIRSA, JIK, and PLXNB1.

8. The method of claim 6, wherein the polypeptide modulator is JIK, and the biological activity is its kinase activity.

9. The method of claim 6, wherein the polypeptide modulator is PLXNB1, and the biological activity is PLXNB1 binding to semaphorin.

**10.** The method of claim 1, wherein (a) comprises testing the test agents for ability to bind to the polypeptide modulator.

**11.** The method of claim 1, wherein (a) comprises testing the test agents for ability to modulate cellular level of the polypeptide modulator.

**12.** The method of claim 1, wherein (b) comprises testing the modulating agents for ability to modulate caspase activity.

**13.** The method of claim 1, wherein the assaying of the biological activity of the polypeptide modulator occurs in a cell.

**14.** A method for modulating TRAIL-induced apoptosis activity of a cell, the method comprising contacting the cell with an effective amount of an agent identified in claim 1, thereby modulating TRAIL-induced apoptosis activity of the cell.

**15.** The method of claim 14, wherein the agent enhances TRAIL-induced apoptosis activity.

**16.** The method of claim 14, wherein the cell is a tumor cell.

**17.** The method of claim 14, wherein the cell is present in a subject.

**18.** The method of claim 14, wherein the subject is also administered a pharmaceutical composition comprising an effective amount of a TRAIL polypeptide or a fragment thereof.

**19.** A method for treating cancer in a subject, the method comprising promoting TRAIL-induced apoptosis in the subject by administering to the subject a pharmaceutical composition comprising an effective amount of an agent identified in claim 2, thereby treating cancer in the subject.

**20.** The method of claim 19, wherein the pharmaceutical composition further comprises an effective amount of a TRAIL polypeptide or a fragment thereof.